has arrived at the following conclusions concerning vicious callus at the upper extremity of the humerus:

1. It is produced by a separation of the superior epiphysis of the humerus or by certain fractures of the surgical neck of the same, causing a specific deformity of the shoulder, simulating in certain points a luxation. The inferior fragment is carried upward and inward; there is a certain flattening, a deviation of the axis of the arm, and a subcoracoid prominence.

2. The primary reduction of the deformity is absolutely necessary if one wants to preserve the function of the member; it is also extremely difficult. The object must be obtained by all means, and it will usually be advisable to cut down on the fragments and perform direct coaptation.

3. In the presence of vicious callus resulting from separation of the superior humeral epiphysis, or of a consolidated fracture in a state of deformity, the only recourse consists in exposing the callus, to separate the fragments to replace them in proper position, if necessary to obtain coaptation, to arrest the end of the diaphyseal fragment. If there is a tendency to displacement they should be united by a bone or periosteal suture.

THE TREATMENT OF FRACTURE OF THE RADIUS.

HENNEQUIN summarizes the conclusion of his study of this subject in the *Revue de Chirurgie*, No. 9, 1894, as follows:

1. That it is necessary to reduce the fracture of the lower extremity of the radius.

2. That it is necessary to maintain reduction by means of a suitable apparatus, leaving the fingers entirely free.

3. That the patient must use the hand as soon as possible after union.

4. That massage fulfils but one indication, and must not be employed as the only means of treatment, except in those without displacement. Having no other pretension than the restoration of function after consolidation, its *rôle* becomes more restricted if the fingers are left at entire liberty during the treatment.

CONCLUSIONS OF STUDIES OF TRAUMATISM BY FIREARMS.

1. A ball which strikes the skull, with or without lesion of the cerebral substance, acts only by the general shock communicated to the nervous elements, and therefore the immediate symptoms are only those of cerebral concussion. The wounds of the cerebral substance by firearms are entirely different from those produced by cutting- or thrusting-weapons; while the last are not accompanied by any bulbar symptoms, the first act directly on the medulla oblongata by the shock communicated to the nervous substance.

2. If the ball strikes the regions which fulfil certain functions localized there—as, for instance, the bulb—the destruction of these parts must enter into account in the genesis of pathological manifestations. The other parts of the brain which have known or unknown functions react also under the injury of their elements. [We can recognize the symptoms if parts are affected, the functions of which we know—as, for instance, the psychomotor centres. The symptoms are still unrecognized for the parts where the functions have not been elucidated.] But the injury to all these struc-

tures is not followed by any immediate phenomena, the effect being obscured in the general picture of the concussion.

3. The concussion caused by firearms presents a much greater intensity than that produced by other forms of trauma. The respiratory centre may be paralyzed at once, as may also the pneumogastric centre, which is exceptional in concussion due to the application of blunt force. It is necessary to distinguish between the intensity of the violence producing the concussion, according as it causes paralysis of the vagus or simple excitation, because the modifications of the cerebral circulation are essentially different in the two cases.

4. The centres of the bulb, which are too much stupefied to resume their functions again, may do so, however, if artificial respiration is resorted to. It is not a general law, but the exception confirms the rule, showing the revival of the centres—vasomotor and pneumogastric—which we know are much less sensitive than the respiratory centres to cerebral traumatism and to the variations of the blood-current. It is only in the most extreme cases that artificial respiration does not revive them.

5. A practical and incontestable deduction results from these observations: the importance of artificial respiration in cases of sudden cerebral concussion that threatens life.

Again:

1. In moderate concussion of the brain accompanied by retardation of the heart a cerebral anæmia is produced by active contraction of the vessel.

2. In intense concussion caused by severe traumatisms, and characterized by acceleration of the pulse, there is, on the contrary, paralysis of the vessels, loss of vascular tone, and consequently arterial hyperæmia.

EXPERIMENTAL RESEARCHES ON CONCUSSION OF THE BRAIN.

From an extended study of this subject by POLIS (*Revue de Chirurgie*, 1894, Nos. 7 and 8) we take the following conclusions: That concussion, whether produced by a single trauma or by repeated blows, is accompanied by the same effects upon the nervous system. If certain differences are observed at the moment of the shock, they are easily interpreted and confirm this general rule. The result of the violence, the clinical condition, is identical in the two cases. It is the expression of the same physiological modification of the nervous centres. The analogy is so visible, even in the minutest detail, that there is nothing to be added to the analysis of the bulbar symptoms. A single point worth mentioning is the acceleration of the heart-action in consequence of a violent concussion in the case of the hare. The nervous centres, under the influence of simple anæmia, suffer the same modifications as under the influences of traumatisms.

PAINFUL PERITONEAL ADHESIONS.

NICAISE (*Revue de Chirurgie*, 1894, No. 8) calls attention to the frequency of painful peritoneal adhesions, particularly in the pelvic region. The pains frequently resemble hepatic and nephritic colic. The amount of pain is very variable, being in some cases slight and very violent in others.

Pelvic adhesions are more apt to give pain than are those situated in the abdomen. The diagnosis is frequently difficult, and must be made by exclusion. There are usually no very marked signs. There are apt to be some constipation, indigestion, and perhaps obstruction. In some cases it may be necessary to perform an exploratory operation.

The treatment consists in massage and the wearing of a flannel bandage; but if the pain is severe, an operation to free the adhesions will be necessary for its relief. Some authors state that the same condition is left after an operation, but this is not accepted by Nicaise, who advises the division of the offending band in every case with pronounced symptoms.

DERMOID CYST OF THE ANTERIOR MEDIASTINUM.

DARDIGNAC reports (*Revue de Chirurgie*, 1894, No. 9) the following case: A soldier, twenty-two years old, applied to the Hôtel-Dieu. On entering the military service a prominence of the right chest was noted. Auscultation was negative. It was observed that marching induced some difficulty in respiration. On rising in the morning there was a period of severe coughing, terminating in efforts at vomiting. Finally he was obliged to give up.

There was nothing in the family or personal history that seemed to bear upon the present condition. The whole right chest was enlarged. After three weeks of expectant treatment an aspirating needle was introduced to the depth of seven centimetres at the most prominent part of the swelling in the mammary line and 800 grammes of yellowish liquid withdrawn. An examination showed that the fluid was not purulent. Improvement followed at once, fever was absent, there was no spitting of blood—in short, no consecutive phenomena were to be noted. A second aspiration, ten days later, gave issue to 500 grammes of a fluid similar to the first. Again immediate and more marked improvement followed, which persisted.

Three years later he applied for treatment again, with a swelling of the right side of the chest, being most prominent in the mammary region. It was rounded and resisting. The symptoms improved somewhat by rest, but the general condition was much the same. An operation was performed for the relief of the condition. After excising six centimetres of the fourth rib an aspirator was introduced into the fluctuating portion, and a thick, turbid, greenish fluid was withdrawn, not containing pus or blood, but mixed with particles resembling grains of rice colored with saffron. It was impossible to tell whether the sac was intrapleural or extrapleural. Its capacity was estimated at 1800 grammes. Irrigation brought out some skin, hair, and sebaceous matter, proving the tumor to be a sebaceous cyst. To remove the cyst would have required an extensive costal resection, and as the sac-wall was adherent on all sides it was decided to attempt to secure the obliteration of the cavity by exciting an inflammation. For this purpose tincture of iodine was employed and iodoform-gauze introduced. The patient had a slow convalescence, attended with some fever. Four months after the operation a small retrocosto-sternal cavity persisted, with a fistula twelve to fourteen centimetres deep, which remained as long as the patient was under observation, although it decreased somewhat in its dimensions. The patient gained in weight and seemed in perfect health. The author has collected twenty three similar cases from literature.

OPHTHALMOLOGY.

UNDER THE CHARGE OF

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THE CEREBRAL VISUAL CENTRES.

Does there exist in the cerebral cortex a visual centre, constant in localization and well circumscribed? Where is it situated? What are its anatomic structure and physiologic functions? These are the questions discussed by DR. S. E. HENSCHEN, of Upsala, in the *Revue Gén d'Ophthalmol.*, 1894, No. 8. He points out that in spite of many researches these questions are not yet answered, and brings to bear upon them his own exhaustive and extremely valuable "Contributions to the Pathology of the Brain," of which the first half of Part III. has recently been issued.

Normal anatomy, he thinks, can never solve the problem, Which of the more or less uniform cerebral cells are endowed with the property of perceiving the impressions of light? The experiments of physiologists upon the lower animals have led to results too diverse to inspire confidence. There is no certainty of exactly similar localization and structure in the lower animals and man; while accurate observations, that are often impossible in patients lacking intelligence, are still more out of the question for brutes. Even the method of degeneration, accurate and valuable as it is, does not indicate the function of the parts involved, but only that they are intimately related. Thus, one of Henschen's cases, blind of leprosy for fifty years, showed complete destruction of the eyeballs and chiasm, and complete atrophy of the optic nerves and tracts, atrophy of the external geniculate bodies, pulvinar anterior corpora quadrigemina, the radiations of Gratiolet, and, besides, atrophy extending not only into the occipital lobe, but also into the parietal and temporal lobes. Certainly some of these atrophied fibres, though they have importance in the complex mechanism of vision, do not conduct the impressions of light to the visual centres. Their destruction alone would produce no blindness of a corresponding portion of the visual field. Only the anatomico-clinical method can guide our researches on the localization of the visual centre and its limits.

Applying this method to the questions under discussion, one must consider both the positive cases of hemianopsia and the negative cases as well. Having collected from medical literature all of these recorded with sufficient accuracy to throw light upon the subject, and having carefully analyzed and grouped them, he has arrived at the view that *the cortical visual centre is limited to the*